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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/852,445      | 05/09/2001  | Daniel P. Topp       | TOPP-P2-US          | 5131             |

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EXAMINER

FERKO, KATHRYN P

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3743

DATE MAILED: 05/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/852,445

Applicant(s)

TOPP, DANIEL P.

Examiner

Kathryn Ferko

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 12-18 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected combination gas heater/direct-fired heater system, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

2. Applicant's election with traverse of Group I in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the inventions are not independent and distinct. This is not found persuasive because the subcombination combustion system as seen in figure 7 is not necessarily required for use in the system shown in figures 1 and 2. In fact, the combustion system as shown in figure 7 can be used in a plethora of systems, for example just as a burner, a burner utilized in a factory, a burner for waste gases, a burner for use in a duct, etc. Therefore, the inventions of Group I and Group II are independent and distinct.

The requirement is still deemed proper and is therefore made FINAL.

***Specification***

3. The disclosure is objected to because of the following informalities: on page 8, the last paragraph mentions a sensor that can have dual functions. There has not been any previous mention of a sensor and further explanation and clarification is requested. Additionally, there is some confusion as to the igniter(s). On page 8, the igniter is referenced as element 76 and shown in figure 7. However, on page 10, the igniter is referenced as element 90 and shown in figure 6. It is unclear as to whether elements

76 and 90 reference the same igniter or different igniters. For clarity, each element should only have one label and refer to only one feature.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Regarding claims 5 and 6, the phrase "spiral-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhind.

Rhind discloses a combustion system for use in a gas burning heater having a circularly-shaped burner tube (3a) with a plurality of gas exit holes (5) on one side and means (1) for feeding a controlled amount of gas thereto, as recited in lines 33-54; a burner with a set diameter; a first conical frusta section having a pre-determined first pattern of orifice ports with a basal end having a diameter proximate the diameter of the burner tube and a smaller diameter distal

end, the basal end of the first conical frusta section being attached to the burner tube at a position radially inward from the gas exit holes, as recited in lines 74-89, and seen in figures 1 and 2; a second conical frusta section (9) having a predetermined second pattern of orifice ports having a basal end and a larger diameter distal end where the basal end of the second conical frusta section has a diameter proximate the diameter of the burner tube and is attached to the burner tube at a position radially outward from the gas exit holes, as seen in figures 1 and 2. Element 9 connects to the burner at 5a and has a larger diameter distal end. Additionally, Rhind discloses gas exit holes that are equally spaced around the gas tube; as seen in figure 1; gas exit holes that are of a predetermined diameter; gas exit holes that are orthogonally positioned to a plane defined by the circularly-shaped burner tube, as seen in figure 1; and a predetermined pattern for first and second orifice ports that are arranged in a spiral pattern, as seen in figure 1.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhind.

Rhind discloses the invention as applied to claims 1-6 with the exception of a predetermined pattern of first and second orifice ports that include seven

rows of orifice ports and two last rows of the predetermined second pattern of orifice ports proximate to the distal end that are larger in diameter than the first five rows closest to the basal end. However, the size and number of the orifice ports will vary from system to system and depend on the desired heat output, as recited on page 9, "The lengths of the air/gas mixing frusta conical sections or flanges are determined by the desired heat output of the combustion system." "Generally speaking, the length of this conical frusta system or flange increases proportionally in relation to the BTU output of the heater." And page 10, "However, there may be more or less smaller diameter and/or large diameter orifices depending on the BTU output of the heater." Therefore, it would be obvious to one with ordinary skill in the art at the time the invention was made to modify the invention of Rhind to include seven rows of orifice ports and larger ports on the last rows for the purpose of achieving a desired BTU output.

### ***Conclusion***

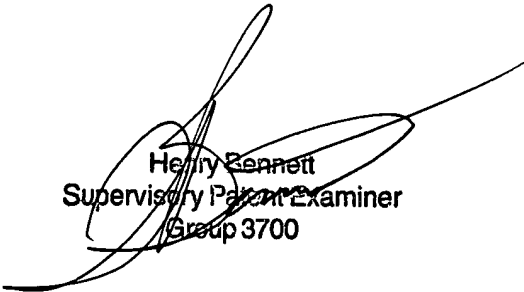
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are as follows: US Patent No. 4,244,349; US Patent No. 3,405,921; US Patent No. 4,458,663; US Patent No. 4,443,187; US Patent No. 5,052,367; US Patent No. 3,267,928; US Patent No. 4,848,313; US Patent No. 5,540,213; US Patent No. 4,444,714; US Patent No. 3,625,495; US Patent No. Re. 36,373; US Patent No. Re. 25,626; and JP 58179718 A.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn Ferko whose telephone number is (703) 306-3454. The examiner can normally be reached on M-F (7:30-5:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry A Bennett can be reached on (703) 308-0101. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

KF  
May 24, 2002



Henry Bennett  
Supervisory Patent Examiner  
Group 3700